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REPORT ON JOINT EEC/ACP/ECA STUDY ON THE NEEDS FOR STATISTICAL TRAINING IN AFRICA

ADDENDUM TO THE GENERAL REPORT

STATISTICAL PROFESSIONALS IN SERVICE IN 1982

	National statistical service	Other ministerial statistical units	Employment outside government	Total
BOTSWANA	13	-	6	19
ETHIOPIA	50	37	62	149
THE GAMBIA	9	4	3	16
GHANA	34	5	36	75
KENYA	60	15	37	112
LESOTHO	15	10	7	32
LIBERIA	23	14	10	47
MALAWI	11	7	-	18
MAURITIUS	16	7	10	33
NIGERIA	165	155	48	368
SEYCHELLES	1	-	-	1
SIERRA LEONE	12	6	17	35
SOMALIA	17	18	14	49
SUDAN	79	15	48	142
SWAZILAND	10	2	10	22
TANZANIA	29	7	35	71
UGANDA	11	32	40	83
ZAMBIA	17	4	8	29
ZIMBABWE	28	12	20	60
TOTAL	600	350	411	1361

Staff in State Statistics Divisions

MIDDLE-LEVEL STATISTICIANS IN SERVICE IN 1982

	National statistical service	Other ministerial statistical units	Employment outside gouvernment	Total
BOTSWANA	6	3	-	9
ETHIOPIA	140	46	16	202
THE GAMBIA	5	2	1	8
GHANA	49	54	50	153
KENYA	167	45	58	270
LESOTHO	25	12	1	38
LIBERIA	81	30	40	151
MALAWI	17	12	29	58
MAURITIUS	60	15	20	95
NIGERIA	309	218	8	535
SEYCHELLES	4	-	-	4
SIERRA LEONE	13	12	11	36
SOMALIA	50	27	23	100
SUDAN	310	60	40	410
SWAZILAND	15	2	7	24
TANZANIA	28	40	23	91
UGANDA	26	45	30	101
ZAMBIA	98	34	38	170
ZIMBABWE	35	29	5	69
TOTAL	1438	686	400	2524

TRAINING REQUIREMENTS: POSTGRADUATE DIPLOMA/DEGREE

	1983	1984	1985	1986	1987	1988-92 average	TOTAL
BOTSWANA	4	2	1	1	1	1	14
ETHIOPIA	13	13	13	13	15	15	142
THE GAMBIA	1	1	1	1	1	1	10
GHANA	7	7	10	11	13	15	123
KENYA	5	5	5	5	5	5	50
LESOTHO	1	2	3	3	3	2	22
LIBERIA	4	4	4	4	4	4	40
MALAWI	2	1	2	3	4	4	32
MAURITIUS	-	1	1	1	1	1	9
NIGERIA	15	15	15	15	15	20	175
SEYCHELLES	1	-	-	1	-	1	7
SIERRA LEONE	1	1	2	3	3	2	20
SOMALIA	2	3	2	3	2	2	22
SUDAN	15	15	13	18	18	20	179
SWAZILAND	3	2	1	2	1	1	14
TANZANIA	5	5	5	8	8	7	66
UGANDA	5	5	8	10	13	8	81
ZAMBIA	2	4	4	4	4	4	38
ZIMBABWE	1	2	2	2	2	4	29
TOTAL	87	88	92	100	113	119	1073

TRAINING REQUIREMENTS: FIRST DEGREE

	1983	1984	1985	1986	1987	1988-92 average	TOTAL
BOTSWANA	2	3	2	3	2	3	27
ETHIOPIA	45	45	45	45	45	50	475
THE GAMBIA	-	-	1	-	1	1	7
GHANA	30	35	35	35	40	40	375
KENYA	24	24	24	24	24	24	240
LESOTHO	3	3	5	5	5	5	46
LIBERIA	2	17	22	27	25	20	193
MALAWI	-	-	-	-	-	-	-
MAURITIUS	-	-	-	-	-	-	-
NIGERIA							
SEYCHELLES	-	1	-	-	1	-	2
SIERRA LEONE	-	1	-	-	1	1	7
SOMALIA	3	3	3	3	3	3	30
SUDAN	30	35	40	50	50	50	455
SWAZILAND	4	5	4	4	5	4	42
TANZANIA	20	20	20	25	25	25	235
UGANDA	40	40	40	40	40	40	400
ZAMBIA	10	5	2	3	3	20	123
ZIMBABWE	-	25	30	30	35	40	320
TOTAL	213	262	273	294	305	326	2977

No projections made since all requirements will be met from own resources (see Report)

TRAINING REQUIREMENTS: MIDDLE-LEVEL

	1983	1984	1985	1986	1987	1988-92 average	TOTAL
BOTSWANA	11	11	11	11	11	12	115
ETHIOPIA	35	35	45	45	50	50	460
THE GAMBIA	2	2	2	2	2	3	25
GHANA	50	50	50	50	50	50	500
KENYA	30	30	30	30	30	30	300
LESOTHO	8	8	8	10	10	10	94
LIBERIA	50	40	30	30	30	30	330
MALAWI	8	7	7	7	7	7	71
MAURITIUS	-	-	-	-	-	-	-
NIGERIA							
SEYCHELLES	1	2	2	2	2	2	19
SIERRA LEONE	-	15	15	15	15	20	160
SOMALIA	30	30	30	30	30	30	300
SUDAN	5	25	22	22	27	30	251
SWAZILAND	15	18	15	18	15	15	156
TANZANIA	34	34	46	46	55	55	490
UGANDA	16	16	30	30	30	30	272
ZAMBIA	10	55	27	58	33	40	383
ZIMBABWE	35	40	40	40	40	40	395
TOTAL	340	410	410	446	437	456	4321

No projections made since all requirements will be met from own resources (see Report)

STATISTICAL PROFESSIONALS IN SERVICE IN 1982

	National Statistical Services	Other Governmental Statistical Services	Other Sectors	Total
BENIN	48	10	:	58
BURUNDI	21[1/]	5	2	28
CAMEROON	100	40	60	200
CENTRAL AFRICAN REPUBLIC	2	-	2	4
CONGO	26	7	1	34
GABON	12[2/]	1	-	13
GUINEA	124[3/]	-	-	124
IVORY COAST	16	10	54	80
MADAGASCAR	21	20	3	44
MALI	34	22	12	68
MAURITANIA	3	2	2	7
NIGER	5	10	-	15
RWANDA	4	14	5	23
SENEGAL	57	20	10	87
TCHAD	:	:	:	:
TOGO	25	15	5	45
UPPER VOLTA	:	:	:	:
ZAIRE	53	63	19	135
TOTAL	551	239	175	965

1/ of which only 3 have a statistical training

2/ of which only 2 have a statistical training

3/ of which only 7 have a statistical training

: not available

STATISTICAL SUB-PROFESSIONALS IN SERVICE IN 1982

	National Statistical Services	Other Governmental Statistical Services	Other Sectors	Total
BENIN	13	5	-	18
BURUNDI	26	8	6	40
CAMEROON	109	40	34	183
CENTRAL AFRICAN REPUBLIC	6	3	1	10
CONGO	10	26	1	37
GABON	11	-	-	11
GUINEA	45	-	-	45
IVORY COAST	20	15	24	59
MADAGASCAR	27	15	2	44
MALI	27	5	9	41
MAURITANIA	4	12	3	19
NIGER	5	47	-	52
RWANDA	5	-	-	5
SENEGAL	59	20	5	84
TCHAD	:	:	:	:
TOGO	12	24	-	36
UPPER VOLTA	:	:	:	:
ZAIRE	185	101	42	328
TOTAL	564	321	127	1012

REQUIREMENTS IN ISE AND ITS

	ISE trained during the 5 previous years	Forecasts 1983-1987	Forecasts 1988-1992	ITS trained during the 5 previous years	Forecasts 1983-1987	Forecasts 1988-1992
BENIN	10	10	10	25	25	30
BURUNDI	0	3	3	3	10	10
CAMEROON	14	15	16	74	75	75
CENTRAL AFRICAN REP.	1	3	5	3	10	10
COMOROS	0	1	2	0	2	3
CONGO	3	4	5	19	20	25
DJIBOUTI	0	0	1	0(1 in training)	5	5
GABON	1	5	5	2	25	25
GUINEA	0	0	1	0	5	5
IVORY COAST	10	15	15	35	50	50
MADAGASCAR	4	5	5	1	10	15
MALI	8	10	10	22	30	30
MAURITANIA	1	3	5	0(2 in training)	10	10
MAURITIUS	0	0	1	5	5	5
NIGER	1	3	5	1	10	15
RWANDA	0(2 in training)	5	5	20	35	35
SENEGAL	14	15	15	5	25	25
TCHAD	0	2	3	5	10	10
TOGO	1	4	5	23	25	25
UPPER VOLTA	2	3	5	11	11	15
ZAIRE	0	5	5	1	20	20
extra ACP	14	20	20	-	-	-
TOTAL	84	131	137	255	418	443
of which ACP	70	111	117			

REQUIREMENTS IN ADJOINTS TECHNIQUES AND AGENTS TECHNIQUES

	Adjoints techniques trained during the 5 previous years	Forecasts 1983-1987	Forecasts 1988-1992	Agents techniques trained during the 5 previous years	Forecasts 1983-1987	Forecasts 1988-1992
BENIN	8	30	40	5	70	100
BURUNDI	2	20	20	12	20	30
CAMEROON	52	80	80	62	100	100
CENTRAL AFRICAN REP.	4	40	30	22	50	50
COMOROS	-	5	5	-	-	-
CONGO	18	50	50	35	70	70
DJIBOUTI	2	10	10	-	20	20
GABON	-	10	30	7	20	20
GUINEA	3	10	10	4	4	4
IVORY COAST	28	60	60	39	70	70
MADAGASCAR	-	40	50	-	50	50
MALI	12	40	50	6	50	50
MAURITANIA	-	15	25	-	15	30
MAURITIUS	-	-	-	-	-	-
NIGER	-	20	30	7	30	50
RWANDA	4	50	50	3	70	70
SENEGAL	-(1)	-	-	1	50	50
TCHAD	-	15	15	10	20	30
TOGO	15	30	30	10	20	30
UPPER VOLTA	11	30	30	18	40	40
ZAIRE	1	30	50	1	40	€
TOTAL	160	585	665	242	809	924

The ENSEA

The ENSEA now has plenty of experience. After more than 20 years, it is paradoxical that the majority of the teaching staff are expatriates. The Ivory Coast has a sufficient number of trained staff to take on such responsibilities. As in the case of the Ivory Coast administration and that of the statistical services in particular, the solutions are in the hands of the national authorities. A statute for teachers at the 'Grandes Ecoles', which has already been discussed, is the remedy not only for the ENSEA but also for the 'Grandes Ecoles' in the Ivory Coast.

Abidjan is an active university city constituting a favourable location for the introduction of an ISE course. This project, which has been made possible by the new Statutes of the School, must therefore be supported and carried out with the necessary care to ensure its success. The introduction of a joint competition and concentration of the schools which will provide this training will constitute a guarantee of high standards, as in the case of ITS training.

When it is housed in its new premises, the ENSEA will be able to take more students and could then consolidate its regional nature for ITS and ISE training.

The AD and AT types of training should become less and less regional with the progressive development of national schemes in the various countries sending candidates to the ENSEA, contrary to what should happen in the case of the ITS and, subsequently, the ISE.

ITS training at the ENSEA would benefit by placing more emphasis on sectoral statistical methods, which are of most relevance for the countries served by the ENSEA (agricultre, food supply, etc.). As regards training in the preparation and processing of data, the ENSEA has developed this activity and its only need now is for more equipment.

In order to gain a better idea of the jobs taken by ENSEA graduates, something along the lines of an association of former students would be very useful. It could also act as a forum for follow-up meetings and exchanges of experience.

The ENSEA has an urgent need for new premises which should be able to meet the requirements of the next ten years.

The ISPEA

The ISPEA is to some extent proof that it is possible to africanize a higher level school provided the political will exists. Most of the teaching staff are from Cameroon and its courses are held in high esteem beyond the country's borders.

Yaoundé is an active university city. Cameroon has numerous ISE and the ISPEA is on the way to becoming a regional school under UDEAC patronage - three reasons why, in addition to the way it is run, this institute is a suitable location for ISE training. The construction projects prepared by the present Director of the school have also taken this prospect into account.

To implement these plans the ISPEA will need foreign teachers, at least in the initial period (three to five years). These should be replaced by African teachers without too much delay even if this means that the ISPEA will require the financial support of foreign bilateral or multilateral funds.

As in the case of the ITS, the organization of a joint competition for the centres to which ISE training is to be transferred and coordination of the programmes should guarantee smooth running and an equivalent level in the different centres.

The new statutes of the ISPEA will give a very regional note to its ITS training and to its future ISE training.

The courses for Statistical Assistants and Statistical Technicians need not be integrated in the regional structure. The development of national training schemes at these levels will reduce the number of candidates from other countries.

ITS training would benefit by placing greater emphasis on sectoral statistics (agriculture, food structures) and data preparation (processing, presentation, analysis). To this end informatics facilities would have to be expanded.

In order to gain a better idea of the kind of jobs done by ISPEA graduates, it would be very advisable to set up an association of former students. Such an association could also be a useful forum for follow-up meetings and the exchange of views.

The existing plan for new premises will provide good working conditions for a greater number of ITS and ISE students. Construction of these premises is fully justified in this light.

The IAMSEA

The IAMSEA is the most recent of the three schools taking part in the joint competition. The Institute was set up in 1975 to transfer the training of ITS statisticians under the CESD to a regional centre and has a very good reputation among the statistical services employing the statisticians it trains.

The problesm of this school are financial. The States which set it up have to contribute to the IAMSEA budget. While this procedure is improving and becoming more reliable, the situation is still delicate.

Because of this and because of the cumbersome nature of the administrative machinery, the IAMSEA is not africanizing the teaching staff very quickly. Progress has certainly been made: there is already one permanent African teacher and the aim is a rate of 1-2 new African teachers per year. Progress could be jeopardized by premature withdrawal of the support represented by the remuneration of expatriate teachers. A way of reducing this cost would be through subsidies to pay the African teachers; this would accelerate africanization in the school and ensure that the school's own budget was able to take over the financing of these teachers at a rate it could manage.

The training provided by the IAMSEA should include more of the sectorial statistics of most relevance to the countries in question (agriculture, food supply). The essential development of computer techniques depends on an increase in the equipment available.

A former students' association would be useful to provide information on the jobs taken by people with IAMSEA diplomas. It would also facilitate the organization of meetings to exchange information or discuss refresher courses.

When the new buildings are ready, the IAMSEA will be able to take more students to meet the needs of the user countries over the next 10 years.

The CESD

The CESD is something of a special case among the schools participating in the STPA in that

- it is located in Europe but is regarded as a participant in the programme;

- it has established links with the ENSAE which are of a new and at the same time exemplary character;

- it provides a means of coordinating the activities (ranging from entrance procedures to curricula of three African schools - those of Kigali, Yaoundé and Abidjan; this is an unusual feature, which ensures that the teaching scheme employed in these three schools enjoys a quite exceptional reputation throughout the region.

In the future, the CESD will have to make an active contribution to transferring ISE training activities to the Abidjan and Yaoundé schools. To this end, and also in order to safeguard what has already been achieved, the CESD will have a continuing role after the transfer of the ISE division, consisting in

- the organization of ITS and ISE common entrance examinations;

- supply of teaching material to the schools;

- coordination of the activities of the African schools.

As certain countries are under-represented in terms of both ISE and ITS students, the CESD requires financial resources to enable it to provide the countries which account for an unduly small proportion of successful candidates with the educational means to organize courses preparing students for the competitive examination.

Closer links between the African schools and the CESD could also be established after the transfer either by creating an association of African schools or by ensuring that they are more closely involved in the CESD association.

The IFORD

The IFORD, in its new premises, is a school which is in good shape. It has a good reputaiton and attracts a large number of applicants (50 for the examination in 1974 and 238 in 1982). It is interesting to note the trends in the categories of the applicants. Whereas when the school opened most applicants took the A option, this ratio has been reversed and for the past two years some 60% of the applicants take the B option. This trend is due to the fact that the population studies diploma is recognised as being equivalent to that of an ISE (Economic Statistician).

The two examinations are on very different levels, the ISE examination being much more difficult as regards the programmes and examinations. In all fairness the level of the entrance examination for the IFORD ought to be raised considerably, otherwise the administrative category of equivalent to ISE would be an incentive to train demographers. While this is a speciality which is necessary for statistics, it is not the only one required in the statistical directorates. Apart from considerations of fairness there is thus also a requirement regarding the needs of the countries.

The way in which the grants are administered by the Institute independently of the countries has led to a marked imbalance. The countries which have most professional people and most demographers continue to train the highest numbers. While this method of administration makes life easier for the School, it creates imbalance. The individual country reports show that demographic studies is not a specialization which is felt to be in short supply in the countries at present. The average number of graduates which the IFORD can produce at present (20-25 per annum) is therefore adequate. This is because the training given for both ITSs and ISEs includes demographic studies along with other areas of statistics, and also because the lack of statisticians is felt less keenly in the area of demographic studies than in other economic and social sectors.

To sum up, demographic studies is a sector of African statistics which has made progress and at present other fields call for a major effort.

REGIONAL INSTITUTE FOR POPULATION STUDIES

The Regional Institute for Population Studies (RIPS) was set up by the United Nations in agreement with the Government of Ghana. It is situated on the campus of the University of Ghana at Legon and the degrees and diplomas it awards are those of the University, so it has to follow the rules of the University in academic matters. However, legally it is a fully regionalised institution. RIPS receives substantial support both from the UN and the Government of Ghana.

RIPS offers the following courses in demography:

i. Graduate Diploma (twelve months)
ii. M.A. Degree (at least twelve months, by classwork and dissertation)
iii. Ph. D. Degree (individually designed research).

The Diploma is designed for graduates from virtually any discipline and so concentrates on the application of demographic techniques rather than the theory behind them. Students who gain a good pass at the Diploma are admitted to the M.A. course. Those with an acceptable equivalent qualification are accepted directly to the M.A. but this seems to happen very rarely. Enrolment on the Diploma course has been growing in recent years to reach 37 in 1981, and pass-rates are generally between 60 and 90 per cent. Between 5 and 10 students are admitted to the M.A. course annually, and Ph.D. students are admitted very occasionally. RIPS also provides a range of research, advisory and documentation services in African demography.

Virtually every English-speaking African country has sent students to RIPS in the last six years, though 30 per cent have been Ghanaians. The Institute tries to ensure a good geographic distribution of students but are of course constrained by the applications received. Discussions with user countries indicated two main constraints which may limit their use of RIPS in the future. The first is the difficulty experienced by students in recent years with living conditions in Ghana. The second is the length of the training programme: more than two years is taken to complete an M.A. and countries compare this unfavourably with the eighteen months taken at universities outside Africa. The UN provide some 50 new fellowships each year for study at the Institute. The impression gained in many countries was that the readiness with which a fellowship can be secured has produced some in-balance in the specilisation of the statisticians in post, and that postgraduate courses now need to be developed in other areas of applied statistics to redress the balance.

The staff of RIPS are supplied by the UN and the Government of Ghana: at present the Director and four experts are provided by the UN and the other eight staff members are seconded by the University of Ghana (of which three are research assistants). There are four vacant posts, two at the research assistant level. Part time lectures from elsewhere in Ghana and abroad are also employed.

RIPS is accommodated in a complex of buildings constructed by the Government of Ghana to house the Institute of Statistical, Social and Economic Research of the University, with whom it shares a library. Students are accommodated in the University halls of residence. These facilities are generally adequate for the

current needs of the Institute. Computing facilities will be improved by the acquisition of a mini-computer which UNFPA are to provide to analyse the Ghana Population Census: this mini-computer will be housed at RIPS. All students are given an allowance to buy their own calculator.

In conclusion, it appears that RIPS has adequate support to fulfil its functions and no particular areas of need were identified. A more urgent need is to develop programmes similar to that of RIPS in other fields of applied statistics, and in doing so many features of RIPS could usefully be taken as a model, particularly its relationship with the University and the organisation of its teaching programme.

DEPARTMENT OF STATISTICS, UNIVERSITY OF BOTSWANA

The Department of Statistics is located in the Faculty of Social Science and offers three courses:

i. Certificate in Statistics (middle-level, one academic year)
ii. Diploma in Statistics (sequel to Certificate, two academic years)
iii. B.A. degree with statistics as a single subject or as part of a joint degree (four academic years).

Diploma-holders who wish to continue their studies to read for a degree have to join the third year of the degree programme, even though in doing so they will spend a year repeating material already covered in the Diploma. In 1982 the output of the Department was 6 Certificate-holders, 6 Diploma-holders and 4 graduates (a drop from 11 in 1981).

When the STPA was set up the Department belonged to the University of Botswana and Swaziland, which divided into two national universities in 1982. The University of Swaziland offers a statistics degree course so there are now no Swazi students in the Department. Malawi has sent students for the Certificate and Diploma courses regularly over the last few years, and intends to continue to do so in the future. However, Botswana itself is the major user of the courses and is likely to remain so. The programme of the Department does not fit in very well with the trainnng plans of other countries in the region and no other potential user countries were identified.

The Department has a complement of six lecturing staff, of which two posts are vacant: they hope to recruit replacements through the Inter-University Council (UK) during 1983. Only one lecturer is a Botswana citizen, although all expatriates are on local terms. Two staff development fellows are abroad on training, and so when they return the Department will be 50 per cent localised. This is a more favourable position than in many parts of the University, and further progress will be made as quickly as possible, though the process is likely to take up to ten years to complete.

The Department shares the building of the Faculty of Social Sciences, the Faculty administrative facilities and the University library. Students reside in University halls of residence. The Department would benefit from having its own reproduction facilities for lecture notes and other documents, and is in urgent need of computing equipment to teach statistical computing. There are no computing facilities either in the Department or for the University as a whole. I recommend that such equipment should be provided.

The other major ways in which the Department of Statistics could meet more closely the needs of their users are in the restructuring of its programme and the introduction of more topics in applied statistics. It seems that minimal re-structuring would be necessary for Diploma-holders to proceed to the fourth year of the single subject degree course. The Department and the University authorities also expressed interest in forging formal links with the Institute

of Statisticians (UK) so that the Department's courses might be given their recognition. I suggest that the dual aims of restructuring the programme and gaining formal recognition from the Institute might be combined, and I recommend that a visit to the University of Botswana by a representative of the Institute should be financed in order to examine these questions.

Although the Certificate and Diploma courses contain topics in official statistics and some practical project work, graduates - particularly those who have taken statistics as part of a joint major degree - have had little exposure to practical statistical problems and may have had no training field survey techniques. Much more could be done if liaison with the CSO, Botswana, was closer, and I suggest that efforts should be made from both sides to exchange ideas and experience, and to become more involved in each other's programme. I also suggest that a field project should be made compulsory for the single major degree and that the topics should be chosen in collaboration with the CSO, linked perhaps to their household survey programme.

DEPARTMENT OF STATISTICS; UNIVERSITY OF GHANA, LEGON

The Department of Statistics is located in the Faculty of Science and offers the following courses:

i. Certificate in Statistics (middle-level, one academic year)
ii. Diploma in Statistics (sequel to the Certificate, one academic year)
iii. B.Sc. with statistics as a single subject or as part of a joint degree (three academic year)
iv. M.Sc. in statistics (preparation for academic work, two academic years)
v. Postgraduate diploma in statistics (for those whose first degree was not in statistics, one academic year).

The Certificate and Diploma courses have been taught by the Institute for Statistical, Social and Economic Research in the past but assurances were given that they would be transferred to the Department in October 1983. At the same time the Department hope to begin a second type of postgraduate diploma orientated towards applications of statistics. In recent years students have been encouraged to take statistics as part of a joint degree rather than as a single subject and between 20 and 30 graduates qualify annually. About 20 Certificates and 20 Diplomas are awarded each year. M.Sc. students are received only very occasionally and there are less than 5 students on the postgraduate diploma course each year. The Department has close links with the Ghana Central Bureau of Statistics and is keen to orientate its programme towards practical statistics and to provide more in-service training for statisticians.

The Department receives applications from foreign students only very occasionally. This is likely to continue, mainly due to resistance by students in potential user countries to study in Ghana because of their perception of the difficulty of living conditions there. The Department and the University authorities accept that in the medium term they will not be able to act as a regional centre, both for this reason and because the Department's facilities, particularly at the undergraduate level, are virtually at full capacity training Ghanaians. However, in the long-term the proposed postgraduate diploma could meet the demand expressed by many countries in the region for this type of training.

The Department has an approved establishment of 12 teaching posts, of which only 6 are filled at present, all by Ghanaians. In addition there are three teaching assistants, for one of whom the Department are trying to find sponsorship to study abroad so that they may join the Department as a lecturer. Assistance in the area of manpower is probably the Department's most urgent need, both support for a staff training programme and assistance from visiting lecturing staff, particularly in order to expand postgraduate teaching in the ways envisaged. Both types of assistance could best be provided by a link with a Department of Statistics in a European university, preferably one with a bias towards applied statistics and in particular sampling theory and practice. I recommend that a suitable "twin" Department should be sought and that such a link be financed.

The Department shares the building of the Department of Mathematics. Work has started on a new building to house the Department of Statistics alone, but has been suspended due to lack of finance and building materials, and will not now be completed for at least two years, and may take considerably longer than this. A mini-computer is being provided by UNFPA as part of their support to the Ghana population census, and the Department will have access to this equipment, though it will not be housed there. There is an urgent need for 50 desk calculators to equip a statistical laboratory for practical work, and I recommend that these should be provided. Other equipment requirements identified are mainly connected with the new building and their provision should be reviewed at a later stage.

DEPARTMENT OF STATISTICS, UNIVERSITY OF IBADAN, NIGERIA

The Department of Statistics is located in the Faculty of Science and offers the following courses:

i. Professional Diploma in Statistics (middle/intermediate level, two years)
ii. B.Sc. in Statistics (three years)
iii. Postgraduate Diploma (one academic year)
iv. M.Sc. (by examination, one year)
v. M. Phil. (by independent research)
vi. Ph.D. (by independent research).

An average of about 20 professional diplomas are awarded each year, and about 15 students graduate in statistics, although the number fluctuates considerably. Between 5 and 10 postgraduate diplomas are generally awarded and about the same number of M.Sc. degrees. There are 6 students currently registered for M. Phil. or Ph.D. degrees.

The Department receives applications from foreign students only very occasionally. Although they are keen to encourage registration of foreign students and the University have agreed to reserve a number of places on each of the statistics courses for them, very few potential user countries were identified in the course of this study. In fact Nigeria's own demand for statisticians is great and so the primary aim should be to help meet this. However, the high academic standard of the courses is such that they might be suitable for training trainers for other African universities who at present use institutions outside Africa to give their potential academic staff post-graduate training. The Department would be well-placed to take or this role since it already has extensive contacts with universities in the region, providing visiting lecturers and external examiners.

There are eight teaching staff, one graduate assistant and one research officer, all Nigerians funded by the University. The Department would like to increase its staff to 22 by 1984/85, though this will depend on the agreement of the University to create the additional posts and the ability to recruit suitable staff to fill them. They envisage that all will need postgraduate training abroad, despite the fact that facilities are already available in the Department, and that counterpart staff will be needed whilst they are away.

The Department shares the same building as the Department of Mathematics. Work has begun on building a teaching block for Statistics alone, financed by the University, but no progress has been possible for sometime due to lack of finance. The Department has access to the University computer and students are taught computer science by the Department of Computer Science. Laboratory equipped with micro-computers, both for teaching and research purposes. I recommend that they should be provided with suitable equipment to allow simultaneous access by up to eight users. They are also hampered by the lack of a properly stocked library, and I recommend that assistance should be given to help build up a stock of modern reference books.

One of the general conclusions from this study is the need to run more seminars and workshops in Africa for working statisticians. Ibadan would be well placed to provide a venue for such activities, and independently have expressed interest in taking on such a role. I suggest this should be borne in mind when a programme of activities of this sort is developed.

DEPARTMENT OF STATISTICS, NATIONAL UNIVERSITY OF LESOTHO

The Department of Statistics is located in the Faculty of Social Sciences and offers two courses:

i. Certificate in Statistics (middle-level, two academic years, maximum of about 12 places)
ii. B.A. double major degree in Statistics and one other subjects, e.g. Economics, Mathematics (four academic years)

A one-year Diploma used to be offered as a sequel to the Certificate but this has been suspended because it is now felt to be redundant: Diploma-holders invariably went on to the degree course. Certificate-holders may transfer to the third year of the degree programme after the completion of one year's work experience. The Department aim to up-grade the present degree course to an honours double major.

Lesotho is the only user country, apart from occasional refugees from countries such as South Africa, and is likely to remain so. The programme of the Department does not fit in very well with the training plans of other countries in the region, and no other potential user countries were identified. Intake to the Certificate programme has been growing in recent years and reached 9 in 1982. Between 5 and 10 graduates are produced each year, though student numbers on the first and second year courses are very much higher because these are compulsory for a wide range of degree programmes.

There are five teaching posts in the Department, all of which are filled by expatriates on local terms, although in the recent past CIDA provided two externally funded lecturers. CIDA is supporting a project to strengthen various parts of the University, in which the Department is singled out. At present they are sponsoring three teaching assistants on postgraduate studies abroad, who, with a fourth being sponsored by UNDP/STrA, will ensure virtual localisation of the Department by about 1987, although a more experienced head of Department will be needed for some time. CIDA would also be prepared to provide an extra lecturer but the University will not agree to create an extra post to make this possible. This is unfortunate since the teaching load of existing staff is very heavy: the Department has the largest student enrolment in the University, about 40 per cent of all undergraduates have to take basic statistics courses.

The Department shares the building and administrative facilities of the Faculty of Social Sciences and the University Library. Students reside in University halls of residence. A mainframe computer is being installed, on which the Department hope to mount a range of statistical software. Their main need is for about 15 programmable calculators to use for practicals for second, third and fourth year courses. I recommend that these should be provided.

The Department has close links with the Lesotho Bureau of Statistics who are the main employers of students. The Bureau are fairly happy with the content of the courses, which include topics in applied statistics and project work. However, both the Bureau and the Department would be very interested to forge formal links with the Institute of Statisticians (UK) so that the Certificate course might be given their recognition. I recommend that a visit to the University by a representative of the Institute should be financed in order to examine this. (This could be combined with a similar visit recommended for the University of Botswana).

EASTERN AFRICA STATISTICAL TRAINING CENTRE (EASTC) TANZANIA

The EASTC was set up originally as an institution of the East African Community and the Government of Tanzania took over responsibility for it in a caretaker capacity on the break-up of the Community. However new legal statutes have been drawn up so that the centre should become a fully autonomous regional institution. These have been sent to potential user countries for ratification, and it is hoped that they will be enacted sometime in 1983.

The EASTC offers two courses:

i. Certificate in Statistics (middle-level, ten months, capacity of 70 students);
ii. Diploma in Statistics (intermediate level, ten months, capacity of 30 students).

A short course (6-8 weeks) for statistical clerks is also offered occasionally.

Total enrolment at the Centre doubled in 1979 to a level of about 90 students, which level has been maintained. In 1982 89 students were admitted on the Certificate course and 29 on the Diploma course. Pass rates for the Diploma are generally about 90% (including re-takes) but those for the Certificate have been much lower since the increase in class size.

There are at present six teaching staff, all Tanzanians, of which two are at present abroad on study leave. CFTC are trying to recruit an expatriate to cover for the absent staff. Only one staff member is neither studying or has obtained a postgraduate qualification. The Centre would like to attract teaching staff from other countries in the region once it achieves regional status.

The teaching accommodation of the Centre is most unsatisfactory: it has only two classrooms and four offices, all in different parts of the campus of the University of Dar-es-Salaam. Students are accommodated in the University's hostels, but it is not clear how long this will be possible once the Centre becomes an autonomous regional institution. The Centre has to share the University's library and has no access to computer facilities. One of the main complaints by user countries concerns the difficulty of living conditions at the Centre: although these result in part from general difficulties in Dar-es-Salaam (for example, shortages of essential commodities), these most unsatisfactory facilities are also contributory factors.

The Institute of Statisticians (UK) assisted in the construction of the Certificate and Diploma syllabuses and these qualifications carry exemption up to Stage I and Stage II of the Institute's own examinations respectively. Stage III of the Institute's examinations qualifies the holder for Membership of the Institute, generally considered the equivalent of an honours degree in statistics, and difficulty has been caused in many African countries by the fact that there is now no institution offering a full-time Stage III course. I suggest that EASTC might consider developing a one-year course which would qualify successful students for Membership of the Institute. This would fill an important gap, and I recommend

that if they decide to pursue the idea, technical co-operation inputs should be provided if requested.

The EASTC has requested funds from the EDF to cover the costs of a new building to comprise a teaching block, student hostel and staff accommodation. This, together with the projected growth of staff numbers to ten, is based on student numbers forecast to reach 150 by 1984. This study has shown that this number will not be achieved, mainly because of the growth in similar local training facilities in the potential user ccutries in the region. Indications are that numbers will not rise above 100, that demand for the Certificate course will decrease slightly to between 50 and 60 places per year (by 1987 almost exclusively from Kenya and Tanzania), but that demand for the Diploma will increase to about 40 places per year (from a wider range of countries). If a course leading to Membership of the Institute of Statisticians is added, this might have an intake of about 20 students per year.

I recommend that favourable consideration should be given to the building request, but that it should be revised to cater for 100 or 120 students (depending on whether the centre decide to offer a third course), and 8 members of staff. Computing equipment is also an urgent need, and I recommend that a micro-computer suitable for teaching statistical computing should be provided, though this may have to wait until the completion of the new building, since at present the Centre has nowhere to house it.

INSTITUTE OF STATISTICS AND APPLIED ECONOMICS, MAKERERE UNIVERSITY, UGANDA.

The Institute of Statistics and Applied Economics (ISAE) is an autonomous Institute within the legal framework of the University. This rather ambiguous relationship has caused some conflict between University entrance regulations and those which the ISAE wish to implement, particularly in giving exemptions for other types of training received and in the recognition of examinations other than A-Levels as entrance qualifications. It is important that priority should be given to clarifying these matters, and to making the Institute self-accounting.

The ISAE offer a three year B.Stat. degree course which is designed specifically to train professional statisticians and has a high practical content. In October 1983 they hope to be able to offer a postgraduate professional diploma in statistics (Dip. Stat.) which will focus on economic statistics. Although these plans have existed for a long time (and the STPA Directory indicates that the course is already available), in fact they have never been implemented. This ISAE would like to add options in other areas of applied statistics in due course.

The intake of students to the B.Stat. course has averaged about thirty in recent years. Twenty places are reserved for Ugandan students although often considerably more than this are admitted. Over the last six years an average of seven foreign students each year have been admitted from eight countries in the region, most coming from Kenya. The Institute are keen to attract more foreign students, and the contents of the B.Stat. course is held in high regard by all countries in the region. The proposed Dip. Stat. would also go a long way to meeting the needs expressed by many countries for this type of training. However, the major limiting factor on the number of applications the ISAE are likely to receive, particularly for the B.Stat. course, is the perception in potential user countries of the difficulty of living conditions and general instability in Uganda. Nevertheless, most of the current user countries (e.g. Kenya, Zambia, Liberia) will continue to use the B.Stat., and a much wider range of countries would be interested in using the Dip. Stat.

Out of an establishment of 27 teaching posts, 19 are vacant. There are an additional 11 "graduate fellows", of whom 6 are on postgraduate courses abroad and 5 are waiting to go for training. Although the Commonwealth Fund for Technical Cooperation are currently recruiting two lecturers to support the area of manpower, both support for a staff training programme and assistance from visiting lecturing staff for short and long periods. Both types of assistance could best be provided by a link with a Department of Statistics in a European University, one which has a bias towards applied statistics. I recommend that a suitable "twin" Department should be sought and that such a link be financed. Consideration should also be given to supplementing the salaries of local members of staff so that they can concentrate on their teaching commitments instead of having to seek additional work, and to reduce staff turnover.

The ISAE is housed in buildings of the Faculty of Science and are very short of space, particularly staff offices. The University agreed to provide a new building but this has not proceeded further than excavation of the foundations because of lack of foreign exchange for imported inputs. Students are accommodated in University halls of residence but their capacity is limited and there are difficulties in reserving places for foreign students who often arrive late. The ISAE thus feel that they need a separate student hostel. They also identified a wide range of requirements for equipment, partly to equip their new teaching block and partly for rehabilitation purposes. Of the latter, the most urgent needs are for a photo-copier and a diplicator, for about 50 desk calculators, and for general office equipment such as typewriters and filing cabinets. I recommend that this basic equipment should be provided. Although ISAE places emphasis on the teaching of statistical computing, they do not have access to any computing facilities. Although proposals have been made for a fairly large mini-computer system to serve the needs of the Ugandian statistical service and the University, there will still be a need for micro-computing equipment specifically for teaching purposes at the ISAE. I recommend that such a machine should be provided.

Investment in an institution in Uganda at present involves something of an act of faith. However, the postgraduate programme the ISAE hope to develop fills the most significant gap identified in this study in training facilities in Africa, i.e. postgraduate courses in areas of applied statistics. Therefore I suggest that it should be supported in the first instance in terms of manpower and basic equipment, and that the position regarding buildings and other items of equipment should be reviewed in about three years' time.